

### **REMARKS**

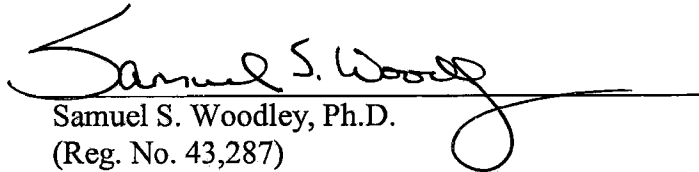
Claims 1-9 are pending in this application, of which claims 1-7 are at issue. Claims 8-9 have been withdrawn from consideration as directed to non-elected subject matter. The claims at issue remain rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 7,309,446 by Kley *et al.* ("Kley") in view of U.S. Patent Application Publication No. 2003/0205190 by Linares *et al.* ("Linares") and/or NO. 2004/01992620 by Pope *et al.* ("Pope"). The Advisory Action indicates that the inventors' previous declarations/affidavits do not place the application in condition for allowance because "there is no evidence of any type of work being performed in April 2004." *Advisory Action at page 2.*

In response, Applicants submit herewith a Third Declaration of Jae Kap Lee and Phillip John Under 37 C.F.R. 1.131 (hereinafter referred to as the "Inventors' Third Declaration") giving evidence of their diligence in April 2004. In particular, the Inventors' Third Declaration includes, as Exhibit A, a Second Declaration by the inventor Jae Kap Lee (the "Second Lee Declaration") and presenting evidence from his computer. The evidence includes Exhibit 1, a screen image of Dr. Lee's personal computer that lists certain files stored on that computer's hard drive. These include a file named "onsio2" last edited by Dr. Lee on April 6, 2004 and describing the subject matter disclosed and claimed in this application. A true and accurate copy of Dr. Lee's "onsio2" file is also provided as Exhibit 2 of his Second Declaration.

In view of the foregoing, Applicants respectfully submit that the inventors affidavits and declarations submitted for this application are sufficient to remove the Kley patent as "prior art" under 35 U.S.C. § 102(e), and therefore obviate the outstanding rejection under 35 U.S.C. § 103(a). Withdrawal of the rejection, rejoinder of the withdrawn claims and an allowance of this application are therefore all respectfully requested. The Examiner is, moreover, invited to contact Applicants' undersigned representative(s) in the event any questions arise regarding this communication or the application in general.

Respectfully submitted,

Date: June 11, 2010

  
Samuel S. Woodley, Ph.D.  
(Reg. No. 43,287)

Customer Number 26211  
**Fish & Richardson P.C.**  
Telephone: (212) 765-5070  
Facsimile: (877) 769-7945

Attachments:

- Third Declaration of Jae Kap Lee and Philip John Under 37 C.F.R. 1.131, including:
  - Exhibit A: Second Declaration of Jae Kap Lee;
  - Exhibit 1: Screen image from personal computer of Jae-Kap Lee; and
  - Exhibit 2: Printed copy of file "onsio2."

Attorney Docket No.: 27573-0080 US1

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Jae Kap Lee & Phillip John

Serial No. : 10/574,264

Confirmation No.: 7194

Filed : March 31, 2006

Art Unit : 1792

Titled: : DIAMONE SHELL WITH A  
GEOMETRICAL FIGURE AND  
METHOD FOR FABRICATION  
THEREOF

Examiner : Joseph Albert MILLER, Jr.

**THIRD DECLARATION OF JAE KAP LEE AND PHILLIP JOHN**  
**UNDER 37 C.F.R. § 1.131**

I, Jae Kap Lee, and I, Phillip John, do hereby declare and state as follows:

1. We are the inventors of the subject matter described and claimed in the above-captioned patent application.
2. The statements made in this Declaration are made in furtherance of statements in our previous Declarations signed on March 10, 2009 and August 18, 2009, and in furtherance of statements in the previous Declaration of Jae Kap Lee signed on March 12, 2010. We understand that these Declarations were submitted to the United States Patent and Trademark Office on March 11, 2009; on August 21, 2009 and on March 17, 2010, respectively.
3. We understand that the patent Examiner continues to reject the claims of this application despite the evidence of our prior Declarations. In particular, we understand the patent Examiner has objected that there is no evidence of any work or activity on the invention in April 2004.
4. Attached hereto, as Exhibit A of this Declaration, is another declaration by the inventor Jae Kap Lee, presenting evidence of our work on the invention in April 2004.

Applicant : Jas Kap Lee & Phillip John,  
Serial No. : 10/574,264  
Filed : March 31, 2006  
Page : 2 of 2

Attorney's Docket No.: 27573-0080 US1

5. We declare that all statements made herein of our own knowledge and true, and that statements made on information and belief are believed to be true. We further declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the instant application or of any patent issued thereupon.

Respectfully submitted,

Date: 31 May 2010

Jas Kap Lee  
Jas Kap Lee

Date: 21 May 2010

Phillip John  
Phillip John

Attachment:

- Exhibit A Second Declaration of Jas Kap Lee, including Exhibits 1-2

# **EXHIBIT A**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Jae Kap Lee & Phillip John

Serial No. : 10/574,264

Filed : March 31, 2006

Titled: : DIAMOND SHELL WITH A  
GEOMETRICAL FIGURE AND  
METHOD FOR FABRICATION  
THEREOF

Confirmation No.: 7194

Art Unit : 1792

Examiner : Joseph Albert MILLER, Jr.

**SECOND DECLARATION OF JAE KAP LEE**

I, Jae Kap Lee, do hereby declare and state as follows:

1. I am one of the inventors, along with Phillip John, of subject matter described and claimed in the above-captioned patent application.

2. I am the same Jae Kap Lee who signed Declarations, along with Phillip John, on March 10, 2009 and August 18, 2009 in connection with the above-captioned application. I understand that those Declarations were submitted to the United States Patent and Trademark Office (the "PTO") on March 11, 2009 and August 21, 2009, respectively. I also signed a Declaration in connection with this application on 12, 2010, and understand that Declaration was submitted to the PTO on March 17, 2010. The statements made in this Declaration are made in furtherance of my statements in those three previous Declarations.

3. I worked on the invention that is described and claimed in this application during the month of April 2004. As evidence of this, a true and accurate image of the screen from my personal computer is attached to this Declaration at Exhibit 1. The screen lists certain files stored on my computer's hard drive and also indicates the date and time when each file was last edited or modified.

Applicant : Jae Kap Lee & Phillip John.  
Serial No. : 10/574,264  
Filed : March 31, 2006  
Page : 2 of 2

Attorney's Docket No.: 27573-0080 US1

4. One of the files listed on Exhibit A is a file named "onsio2" that was created using the program PowerPoint® by Microsoft Corporation. As indicated at Exhibit 1, the file "onsio2" was last edited or modified by me on April 6, 2004.

5. A true and accurate printed copy of the file "onsio2," as edited by me on April 6, 2004, is also attached to this Declaration, at Exhibit 2. The file describes the subject matter disclosed and claimed in this application. See Exhibit 2, e.g., at pages 4-5 and 11.

6. I declare that all statements made herein of my own knowledge and true, and that statements made on information and belief are believed to be true. I further declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the instant application or of any patent issued thereupon.

Respectfully submitted,

Date: 31 May 2010

Jae Kap Lee  
Jae Kap Lee

Attachments:

- Exhibit 1 Screen image of personal computer of Jae-Kap Lee;
- Exhibit 2: Printed copy of file "onsio2"

# **EXHIBIT 1**



patent-shell

파일(F) 편집(E) 보기(V) 즐겨찾기(A) 도구(D) 도움말(H)

뒤로

검색

폴더

주소(2) D:\Data\backup2004\WPost-doc\Wpatent-shell

폴더

바탕 화면

내 문서

내 컴퓨터

3.5 플로피 (A:)

onsio2

patent-form

patent-factsheet

IDF2004

461KB Microsoft PowerPoint 프레젠테이션

33KB Adobe Acrobat 7.0 Document

123KB Adobe Acrobat 7.0 Document

103KB Microsoft Word 문서

2004-04-06 오후 10:18

2004-04-20 오후 10:01

2004-04-20 오후 10:03

2004-05-06 오후 8:14

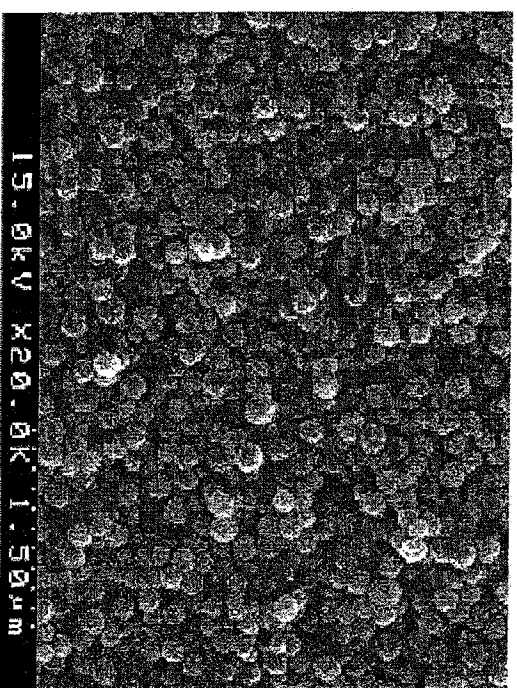
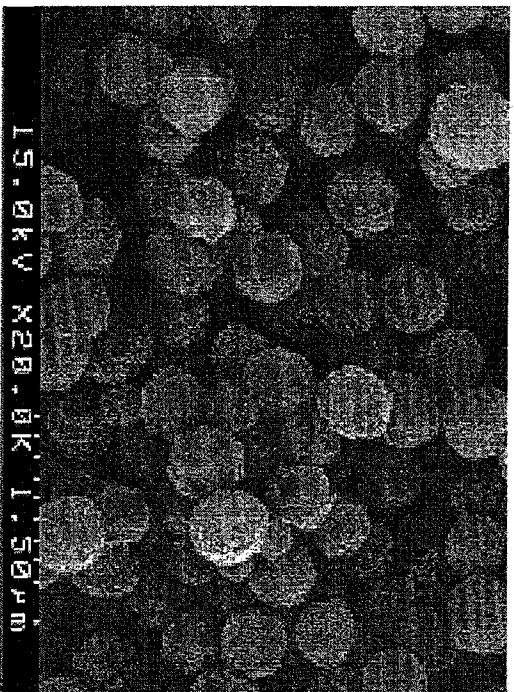
↓  
explanation

File name	Date	Contents
onsio2	April 6, 2004	overview and schematic of this invention (pages 4, 5 & 11), revised on April 6, 2004
patent-form	April 20, 2004	form related reporting of invention to patent application between KIST and Herriot-Watt Univ.
patent-factsheet	April 20, 2004	
IDF2004	May 6, 2004	IDF, revised on May 6, 2004

Exhibit (a)

# **EXHIBIT 2**

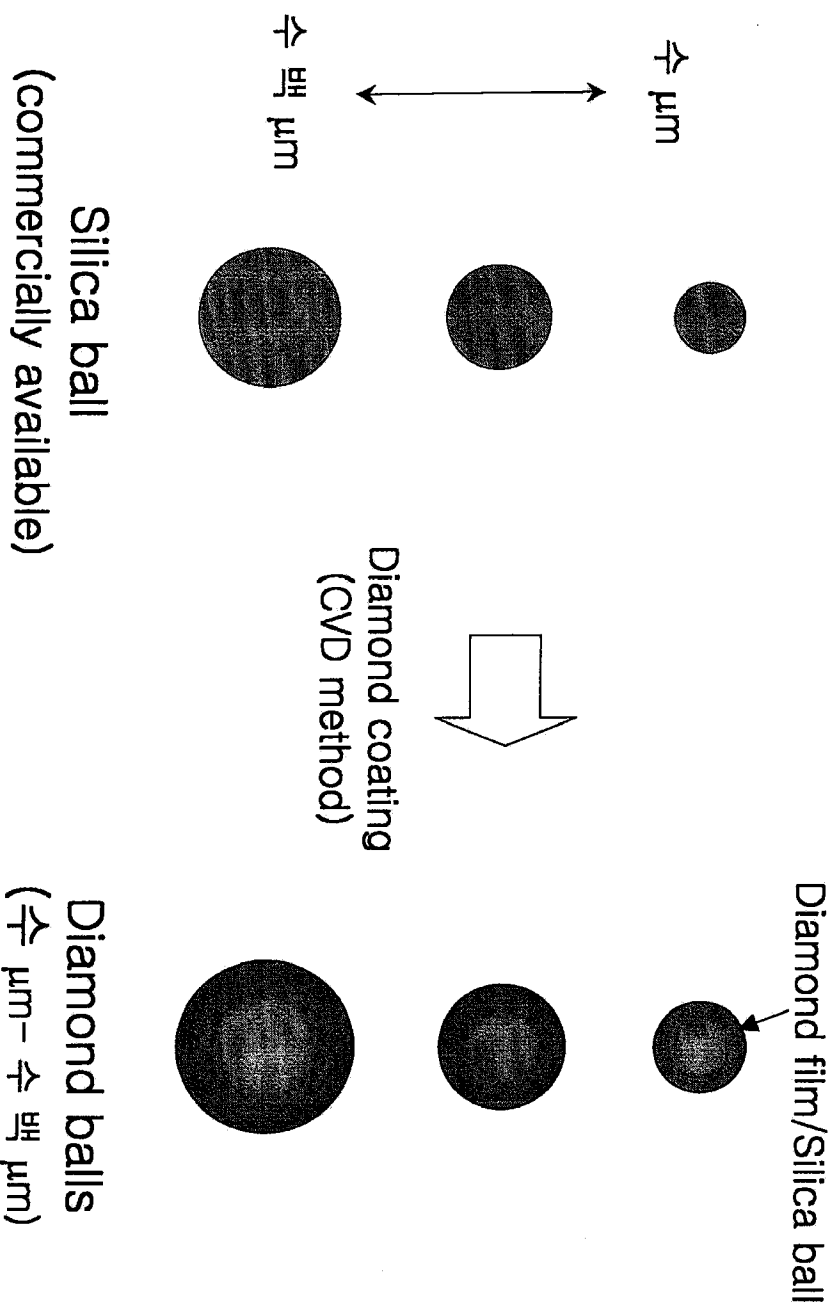
## *Diamond spheres*



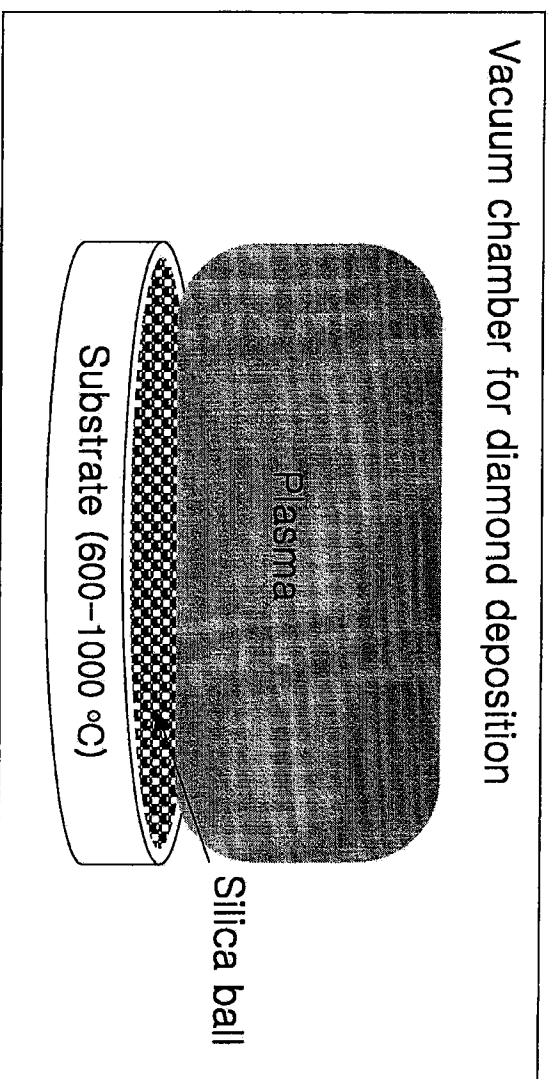
- Deposited under homogeneous nucleation condition (J.-K. Lee et. al., 한국 및 미국 patent)
- Size: 100 – 600 nm
- Polycrystalline(Grain size: ~30 nm)

*Exhibit (b).*

# *Fabrication of CVD diamond balls*

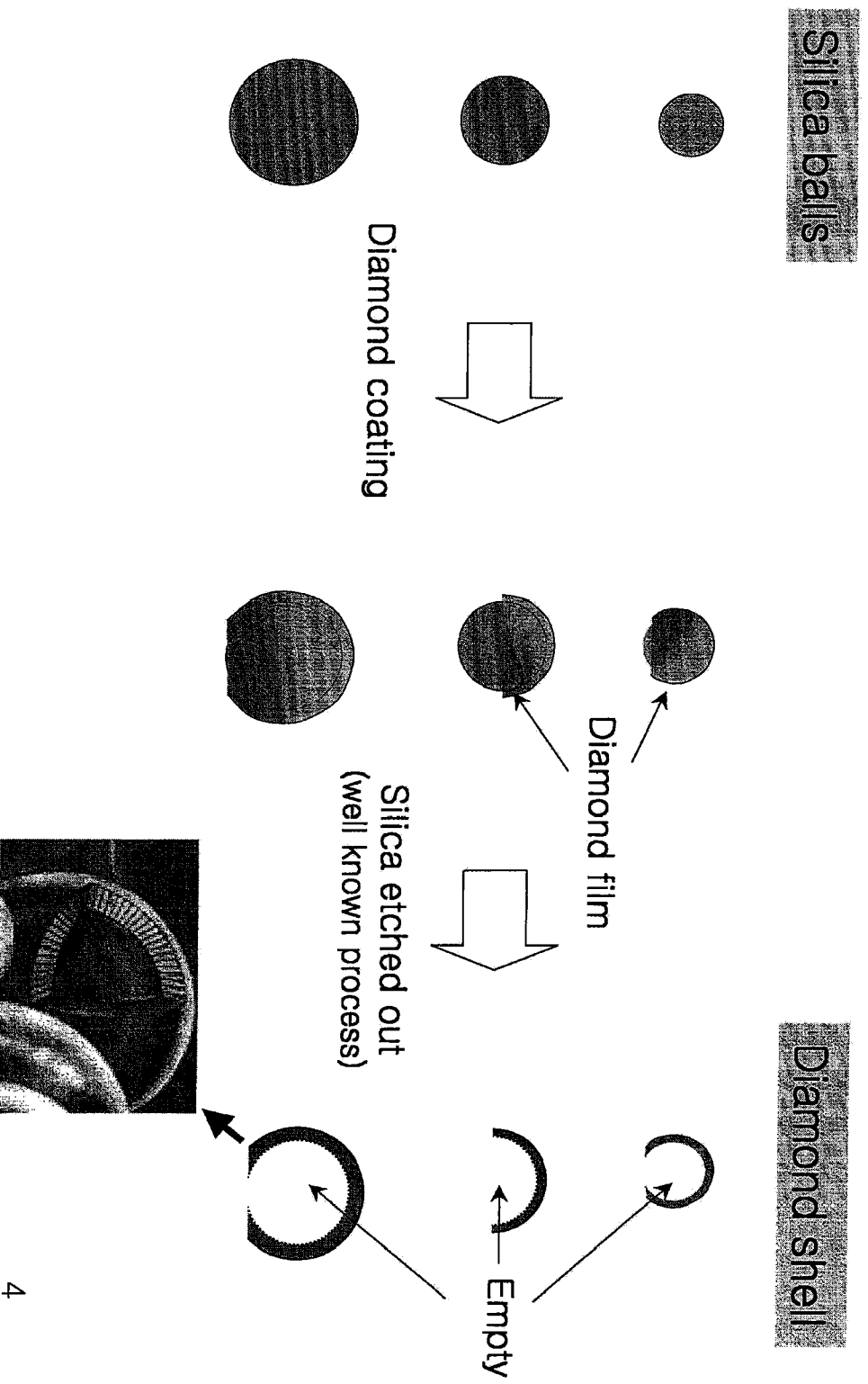


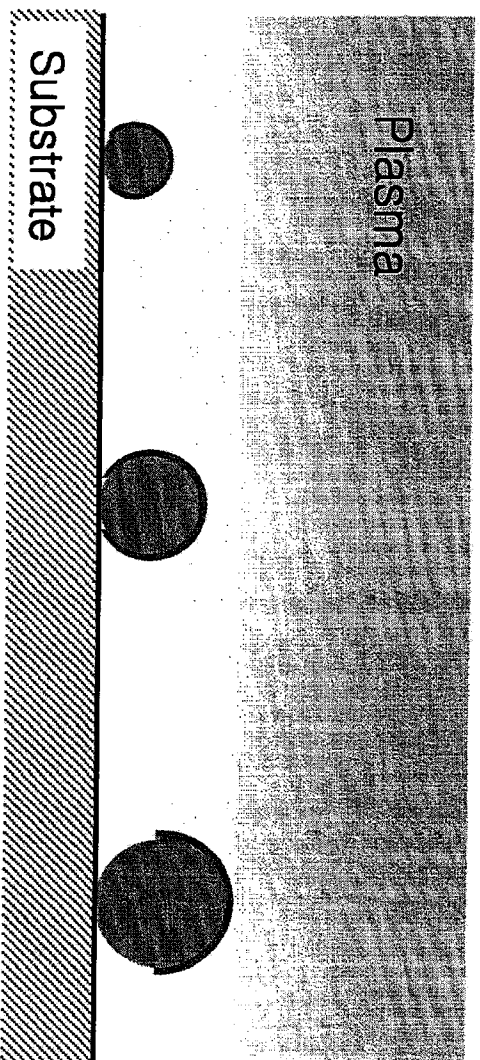
## *Diamond coating*



- Rotation of the silica balls keeping temperatures constantly
- It is not easy for diamond film to cover all surface area.

# *Fabrication of Hollow Diamond Cages*



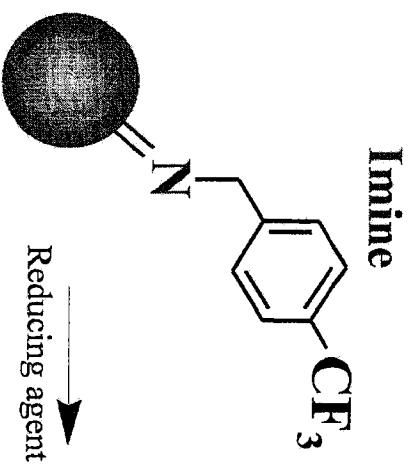
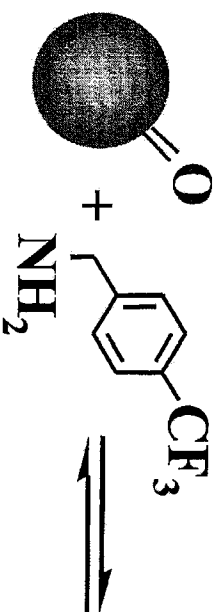


No need rotation  
of the silica balls

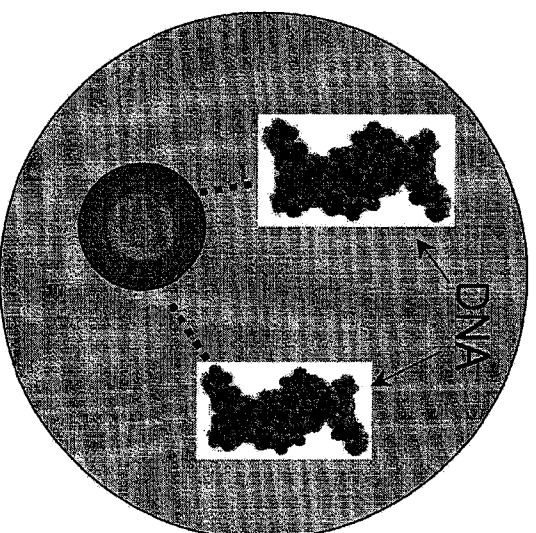
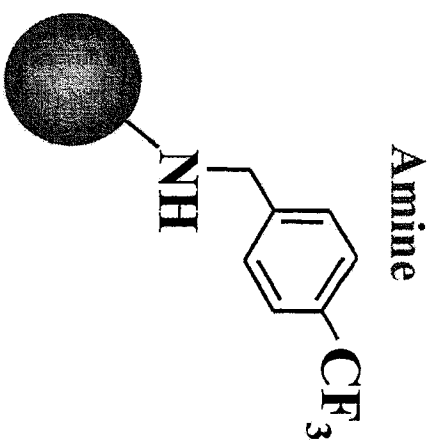


Conventional equipments for  
diamond deposition is available.

## Adamantanone Amine



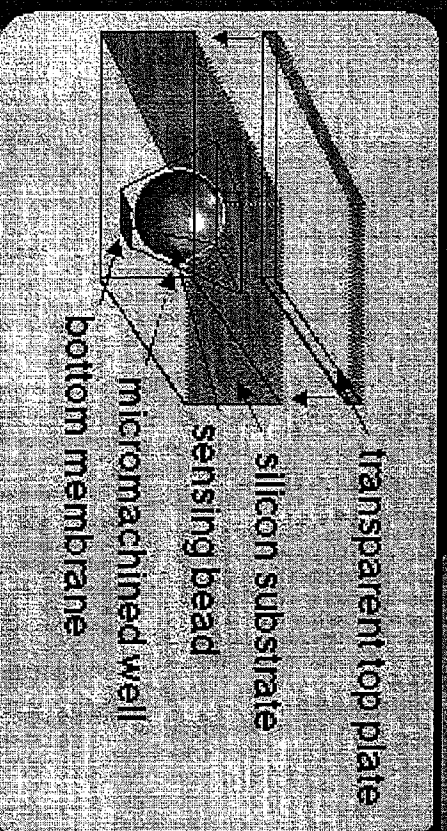
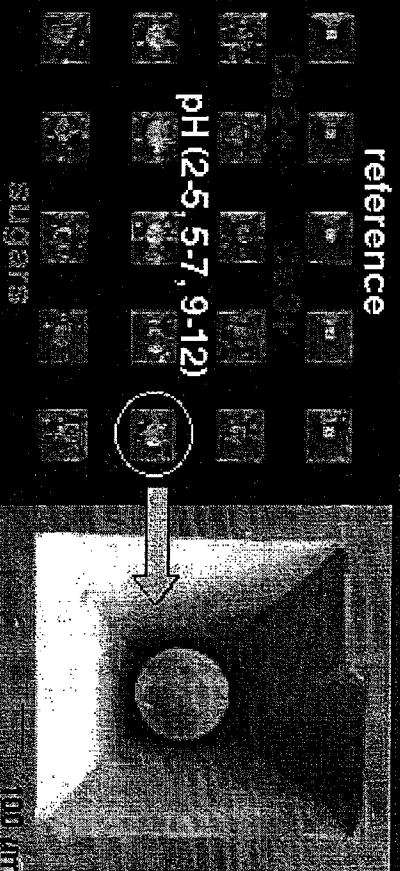
Reducing agent





The University of Texas at Austin

# Micromachines and Chemistry: Towards an "electronic tongue"



Has required an integrated

effort of science and  
engineering faculty!

Eric Anslyn, John McDavit,  
and Jason Shear

• wide range of  
potential

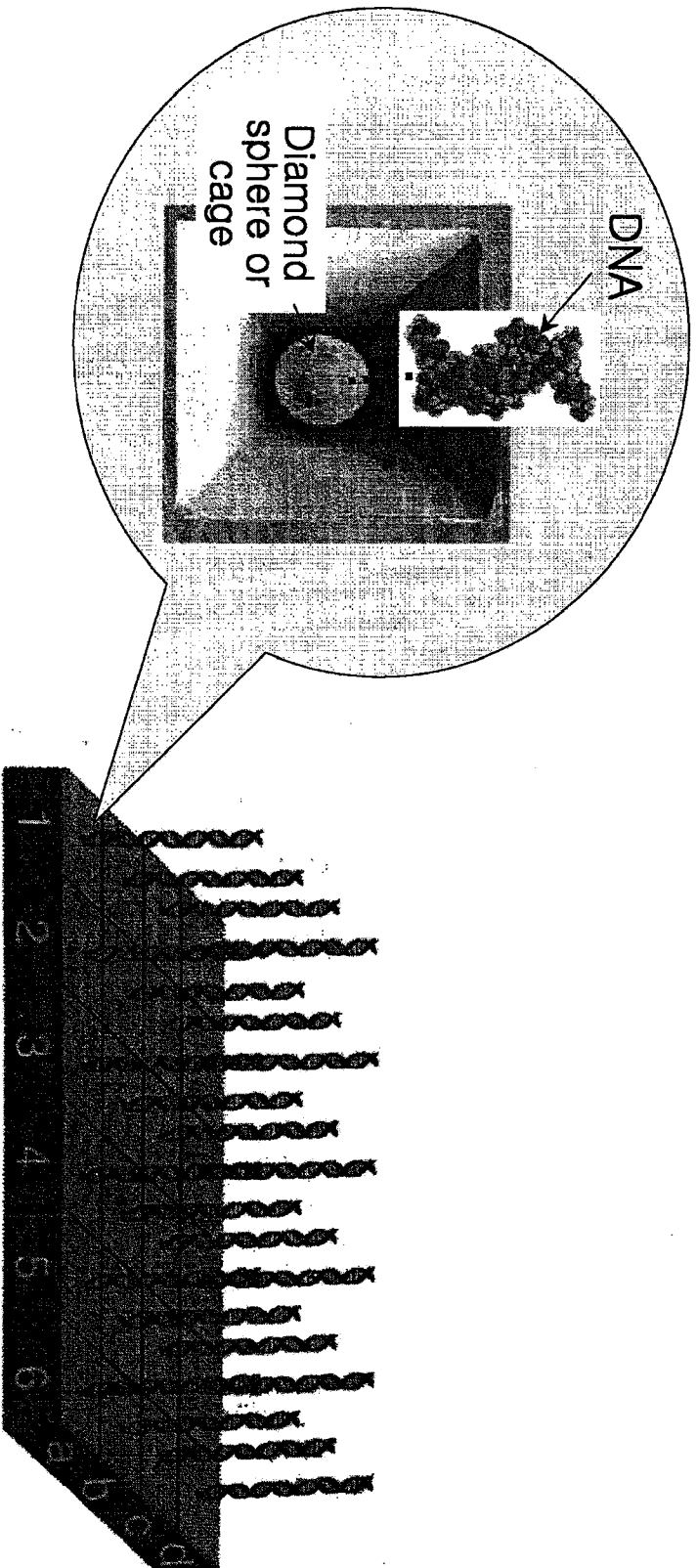
applications

- food, water  
monitoring
- low cost, "real-time"  
medical testing

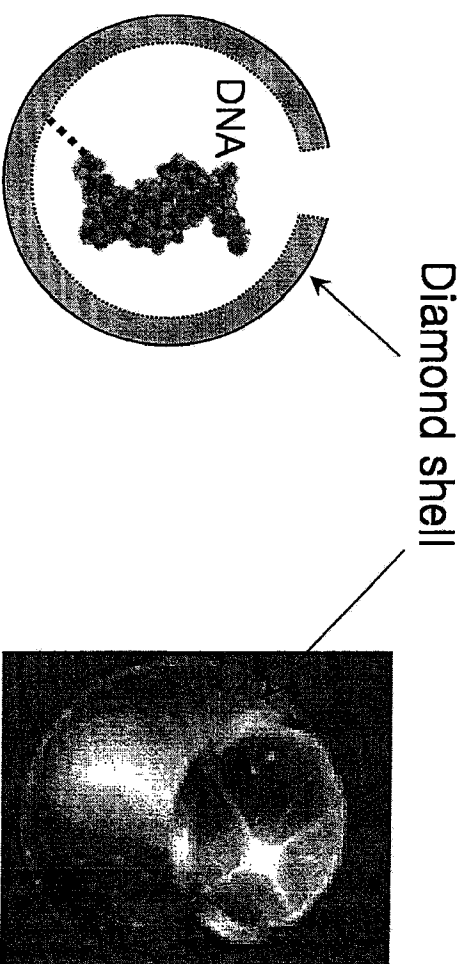
D. Nekirk

Micromachined sensor projects

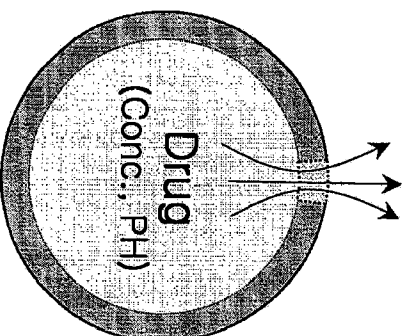
## *Application(1): Diamond DNA Microarray*



## *Application(2): DNA preservation*

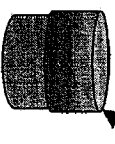


## *Application(2): Drug Delivery System(DDS)*



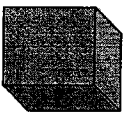
Drug Delivery System(DDS) or Implantable DDS

# *Fabrication of Micro-diamond shapes*



Diamond film

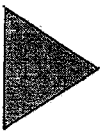
Micro-diamond  
cup



Diamond coating

Silica etching out

Micro-diamond  
box



Silica

(If available)

Micro-diamond  
triangular cone

Diamond shapes